

single prior art reference. Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The Applicants respectfully submit that an anticipation rejection cannot be maintained against the independent claims of the present invention. Zhang does not teach all the elements of the independent claims, either explicitly or inherently. As previously noted, independent claims 1, 11, 19 and 27 recite, among other features, a specific carbon concentration range ( $5 \times 10^{19} \text{ cm}^{-3}$  or less) of an insulating film comprising silicon oxide. The Official Action asserts that the oxide in Zhang "includes C at a concentration of  $5 \times 10^{18} \text{ cm}^{-3}$  (col. 10, lines 60-64)" (page 3, Paper No. 11). However, this portion of Zhang describes the carbon concentration in "the semiconductor film." Zhang does not teach a specific carbon concentration range ( $5 \times 10^{19} \text{ cm}^{-3}$  or less) of an insulating film comprising silicon oxide, either explicitly or inherently.

In the *Advisory Action*, paragraph (b), the Examiner admits that the cited portion of Zhang refers to the semiconductor layer as opposed to the insulating layer, but asserts that Zhang further discloses that when the semiconductor film is obtained through plasma CVD, natural oxidation occurs at the surface. The *Advisory Action* reasons that since the Si film itself has a C concentration of  $5 \times 10^{18}$ , the carbon concentration in the oxidized portion is necessarily below  $5 \times 10^{19}$  and at some point in the thickness direction decreases to below  $1 \times 10^{18}$ .

Applicant respectfully disagrees. It is asserted that the natural oxide cannot correspond to the claimed insulating film since (1) the *Advisory Action* has failed to show that natural oxidation would result in a film having the claimed C concentration (i.e. the *Advisory Action* merely speculates that since the C concentration is in the silicon film, it would also be present in the natural oxide film), and (2) that even if such C concentration is present, the natural oxide film would not be "on an insulating surface" as claimed, but rather on the surface of a semiconductor (silicon). Therefore, it is respectfully submitted that the rationale provided in paragraph (b) of the *Advisory Action* is insufficient to maintain an anticipation rejection and reconsideration is requested.

Paragraph (c) of the *Advisory Action* asserts that Zhang discloses that the halogen may be included using various carrier gasses including  $\text{CCl}_4$  or Freon. The *Advisory Action* then asserts that when either of these carrier gasses are employed, the

resulting insulating film will necessarily also possess trace levels of C. It is respectfully submitted, however, that the *Advisory Action* has failed to show that the use of the halogen containing gas would result in an insulating film having the claimed concentration. Absent a further showing that the disclosed method would “necessarily” result in the specific claimed concentration limits, it is submitted that a *prima facie* anticipation rejection cannot be maintained.

Since Zhang does not teach all the elements of the independent claims, either explicitly or inherently, an anticipation rejection cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102(e) are in order and respectfully requested.

Paragraph 3 of the final Official Action rejects claims 1-34 as anticipated by JP 04-165679 to Yamazaki, or in the alternative, as obvious based on the combination of Yamazaki '679 and JP 04-032267 to Chiyou. The Applicants respectfully traverse the rejection because the Official Action has not established an anticipation rejection and has not made a *prima facie* case of obviousness.


As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. “The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. As noted in the Official Action, Yamazaki '679 and Chiyou appear to correspond to the Japanese patent applications to which Zhang claims foreign priority. The Applicants respectfully submit that Yamazaki '679 and/or Chiyou do not teach or suggest a specific carbon concentration range ( $5 \times 10^{19} \text{ cm}^{-3}$  or less) of an insulating film comprising silicon oxide for the same reasons asserted above.

Since Yamazaki '679 and/or Chiyou do not teach or suggest all the claim limitations, an anticipation rejection and a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 102(b) and 103(a) are in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

  
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